19980117.ba v01_n883.bam.980117

>From ???@??? Sun Jan 18 11:27:03 1998
Message-Id: <199801172225.QAA18683@sco.theporch.com>
Date: Sat, 17 Jan 1998 16:25:09 CST
Subject: BOATANCHORS digest 1883

BOATANCHORS Digest 1883

Topics covered in this issue include:

1) Heathkit Manuals WTB
   by "Alexander N. Gerli" <angerli@connix.com>
2) Re: Boatanchor Swapmeet
   by John Hurst <hurstjsj@gte.net>
3) Maryland Swap Meet?
   by Al Klase <skywaves@bw.webex.net>
4) Re: question on Katakana Morse code
   by "Neal McEwen, K5RW" <nmcewen@metronet.com>
5) Re: B+ voltages and new filter caps
   by "Arden Allen" <aallen@sirius.com>
6) Re: RME45 AGC Problem solved
   by Henry van Cleef <vancleef@netcom.com>
7) Re: Maryland Swap Meet?
   by John Dilks <oldradio@worldnet.att.net>
8) Re: Nixie Tubes for SB650
   by "Dave Meier" <n4mw@email.msn.com>
9) HRO MODS
   by Jderm740 <Jderm740@aol.com>
10) TM 11-827
   by Vern Schroeder <vschroed@sprynet.com>
11) PRM-10:World's best Grid Dip Meter
   by Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
12) WTB: AN/PRM-10 Grid Dip Meter
   by Heinz und Hannelore Breuer <hbreuer@metronet.de>
13) Surplus Conversion Handbooks FS
   by gcr2@po.CWRU.Edu (George C. Rybicki)
14) Re: PRM-10's dangling 955
   by polepeeg@aa4rm.radio.org (BA x-actions hr)
15) Need SX-111 manual copy
   by "Thomas A. Adams" <103360.2133@compuserve.com>
16) Re. PRM-10 grid dipper
   by "Thomas A. Adams" <103360.2133@compuserve.com>
17) More Nuvistor info
   by "Thomas A. Adams" <103360.2133@compuserve.com>
18) German U-Boat radio book
   by BEN NOCK <G4BXD@compuserve.com>
19) Re: Pulse Duration Modulation?

by polepeeg@aa4rm.radio.org (BA x-actions hr)
20) BA-31 BATTERIES
by PLT1032 <PLT1032@aol.com>
21) TS-820 Manual needed
by Dexter Francis <cwest@xmission.com>
22) Re: German U-Boat radio book
by "Steve Hill" <SHILL@onaustralia.com.au>
23) Signal Shifter date
by aa1hb@juno.com (Charles M Cheney)
24) What makes a tube "Zero Bias"
by aa1hb@juno.com (Charles M Cheney)
25) Re: Pulse Duration Modulation?
by "Roberta J. Barmore" <rbarmore@indy.net>

Date: Fri, 16 Jan 1998 22:55:47 -0500
From: "Alexander N. Gerli" <angerli@connix.com>
To: boatanchors@sco.theporch.com
Subject: Heathkit Manuals WTB
Message-ID: <34C02BC2.9E1E6E1C@connix.com>

This is a multi-part message in MIME format.
--------------4EB64E9C793E083DA6595AB7
Content-Type: text/plain; charset=us-ascii
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
Content-Transfer-Encoding: 7bit

Hi, Friends,

I'm looking for:

Original Apache, Warrior, DX-40 and VF-1 manuals

Anyone out there got 'em?

73,

--
*_   _*_*   *_ _ _ _   _*_ _
Sandy Gerli, AC1Y
500 Country Club Road
Avon, CT 06001-2406
(860) 675-5566
E-Mail: angerli@connix.com

Life Member: ARRL, QCWA

Charter Member: Collins Collectors Association

REAL radios use firebottles
The rest of 'em use them li'l chips...
```
*_    _*_*    *_ _ _ _    _*_ _
```

```
--------------4EB64E9C793E083DA6595AB7
Content-Type: text/x-vcard; charset=us-ascii; name="vcard.vcf"
Content-Transfer-Encoding: 7bit
Content-Description: Card for Alexander N. Gerli
Content-Disposition: attachment; filename="vcard.vcf"

begin:          vcard
fn:             Alexander N. Gerli
n:              Gerli;Alexander N.
email;internet: angerli@connix.com
title:          AC1Y/G5CPJ
x-mozilla-cpt:  ;0
x-mozilla-html: FALSE
end:            vcard


--------------4EB64E9C793E083DA6595AB7--
```

Date: Fri, 16 Jan 1998 20:18:00 -0800
From: John Hurst <hurstjsj@gte.net>
To: PLT1032@aol.com
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Boatanchor Swapmeet
Message-ID: <34C030F8.424B@gte.net>

PLT1032 wrote:
>
> Anyone know of any radio swapmeets happenin' in Southern California this
> weekend?
>
> Bob LindgrenBob you're in luck, you can go to: 1) the last swap at Devry located at

the junction of the 10 and 57 freeways (Pomona) or 2) the SCARF antique
radio meet just North of Magic Mountain in Valencia. Its on Highway 126,
a mile or so West of I-5 at a private RV park. 73, John, KU6X

Date: Fri, 16 Jan 1998 23:14:10 -0500
From: Al Klase <skywaves@bw.webex.net>
To: Boatanchors <boatanchors@theporch.com>
Subject: Maryland Swap Meet?
Message-ID: <34C03012.7EE932BB@bw.webex.net>

Anchorites,

Heard some guys on 3885 talking about a small "hamfest" scheduled for WEDNESDAY evening (!), 21 Jan in Timonium Maryland. Seems like a strange time, but I'll be in the area on business. Anybody have any details?

73,
Al

--
Al Klase - N3FRQ
skywaves@bw.webex.net
Flemington, NJ 08822
Web Page: http://www.webex.net/~skywaves/home.htm

Date: Fri, 16 Jan 1998 22:52:36 +0000
From: "Neal McEwen, K5RW" <nmcewen@metronet.com>
To: Ho4bart@aol.com
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: question on Katakana Morse code
Message-ID: <34BFE4B4.4015@metronet.com>

Ho4bart wrote:

> how many characters are in this code? (not counting numbers)

The Japanese alphabet contains 48 basic characters to which are added 4 diacritical marks (characters). This requires about twice as many characters as English and necessitates the use of all exececept two of the possible combinations containing less than six dots and dashes.

The real trick is to copy Japanese code on an American typewriter. You can copy the continental code equivalents with lower case letters. That leaves 26 Caps to be assinged to the remaining Japanese letters and diacritical marks. In this scheme, only 26 new radio characters need be learned.

... would be copied as 's' which translated to the Japanese
sound/character RA,
for example. Tokyo becomes TO-KI-YO and is sent ..-.. -.-.. --
TO, KI and YO being characters.

> are the numbers the same as the Int'l Morse code?

Yes

--
73 de K5RW, Neal McEwen, at "The Telegraph Office", nmcewen@metronet.com
A WWW Page for Telegraph Key Collectors and Historians
http://fohnix.metronet.com/~nmcewen/tel_off.html

Date: Fri, 16 Jan 1998 23:10:23 -0800
From: "Arden Allen" <aallen@sirius.com>
To: "Old Tube Radios" <boatanchors@theporch.com>, <DCrespy@aol.com>
Subject: Re: B+ voltages and new filter caps
Message-ID: <199801170716.XAA24835@mail2.sirius.com>

Harry's dilema:

> Any insights about the higher voltage?? (240 and 180 vs about 200 and 140)??
>
> (By the way. the heating problem turned out to be a badly leaking bypass cap
> on the plate of the audio output tube. The new filter caps led to the
> feedback, that led me to a "make hot parts cold" diagnosis of the bypass cap.
> The radio works fine now, but voltages are still high.)

The precept "make hot parts cold" should not be preceded by "make cold
parts hot". If the transformer was getting hot due to leaky caps than the
logical test would be to see if the suspected leaky caps were also getting
hot. You may have replaced perfectly useable caps. I have lots of things
around here that run fine with 40 or more year old 'lytics.

The reason you are getting higher voltage, assuming all else is equal, is
the new caps have possibly more capacitance and surely lower series
resistance.

Electrolytic caps that have not been electrified for many years will have high leakage current.   Old caps need to be reformed by bringing the line voltage up slowly while monitoring line current. You want to avoid excessive heating in the caps until the electrode dielectric reforms. Excessive temperature will damage the capacitor and possibly cause rupture.

SAFETY WARNING: Bringing an old rig back to life can be dangerous. Caps can explode without warning. Always monitor line current and wear eye protection until everything checks out and the equipment has burned in for several hours.

Give your loved ones Gummy Bears.
Arden Allen KB6NAX Vallejo, CA aallen@sirius.com

Date: Sat, 17 Jan 1998 00:57:29 -0700 (MST)
From: Henry van Cleef <vancleef@netcom.com>
To: metzd@cfw.com
Cc: boatanchors@theporch.com
Subject: Re: RME45 AGC Problem solved
Message-ID: <199801170757.XAA19178@netcom10.netcom.com>

As dave metz discourses

> Thanks to all (especially Hank) for the insight as to the suggestions concerning my agc problem in the RME45 with the VR tube. It turned out to be SEVERAL problems. First, as Hank suggested, the diode load resistors were not right. The were 250K rather than 50K each. Changing those helped some but not to the extent that one would expect. The real culprit seemed to be a 1 meg resistor down wind of these diode resistors. It measured out at almost 2 megs. Changing that to a 920K (closest in parts bin) seemed to make the radio finally sound great on a very strong local station.

Figured you'd find something like this. An HP412A DC VTVM (much higher input impedance than the 11 megs of a VoltOhmyst or the kit wannabes) is a great tool when working with a circuit like this.

> Still suspicious of the few remaining resistors that hadn't been already changed, I discovered that the grid resistor on the 7C5 output tube was over 100K high.

One resistor that requires checking in a self-bias output tube circuit is the cathode resistor. On my set, I found it to be down around 100 ohms. That means something like 75 ma. idling current rather than 50 ma. The problem is that the power transformer, filter choke (and, particularly, speaker field where one is used as a filter choke) and rectifier tube all take a beating and give up long before the output tube (7C5 on an RME-45, same as 6V6 electrically) shows any signs of distress.

>
> Lessons learned---what a disaster this one was. All caps (non mica) needed replacing. Most of the resistors were way out of spec. Sometime back Hank discussed doing a total chassis strip and starting over with a RME45. I remember thinking that I would throw such a receiver in the dumpster before doing such a restoration. Given the hours I have in getting to this point, I am beginning to feel that Hank's solution would have saved time and sure looked more professional than what mine looks like underneath at this point. The irony is that this receiver was sort of working before I soldered in one new component! I think that is a real tribute to the engineering inherent in this wonderful receiver.

The RME-45 almost demands disassembly to "do it right" The RF preamp and oscillator-mixer tube sockets are right under the coil boxes, and the only way to get access to them is to remove the coil boxes. Also, on an RME-45, there are wax paper condensers in the boxes that you can't replace without taking the boxes out. My set had a shorter oscillator padder on band 5. The padding isn't a lot on that band, but the bad cap guaranteed that the band wouldn't track. Somebody had tried to reduce the inductance of the coil by jabbing the turns apart with a soldering aid. With the coil out on the bench, it was no problem to unwind the winding, straighten the wire, and rewind it in the grooves cut in the coil form. The padder caps were molded postage stamp jobs. I replaced them with silver-dipped micas, using 2 caps in parallel for the odd-ball values. To assure that I could get the caps out again without disassembling the set, I glued the nuts on the bottoms of the oscillator coil forms, using weatherstrip cement. With the coil boxes out, there was plenty of room to work on the rest of the chassis. The mylar bypass caps I used are much smaller than the wax paper originals, so I cleaned all the solder off the chassis and run the ground sides of the bypass caps to the bus bar that goes through the shield pins on the tube sockets. Nice neat job, both mechanically and electrically.

Result: a radio that is sensitive right down to 10M. I aligned band 6 using the harmonics from a 1 Mhz. crystal, and the effort needed to get the tweaks to hear the harmonics has got to be about 12db of sensitivity improvement over just a signal generator peaking. Note that you MUST have the coil box shield cover in place when doing the tweaks.

The idea that a set will work with components badly out of spec should not be too astounding. The original resistors were +/- 20% in most locations. Rebuilding with nice 5% resistors put everything near its design center.

```
>


--
===================================================================
Hank van Cleef
===================================================================


------------------------------

Date: Sat, 17 Jan 1998 07:25:01 -0500
From: John Dilks <oldradio@worldnet.att.net>
To: skywaves@bw.webex.net
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Maryland Swap Meet?
Message-ID: <34C0A31D.6FB2@worldnet.att.net>

Al Klase wrote:
>
> Anchorites,
>
>         Heard some guys on 3885 talking about a small "hamfest" scheduled for
> WEDNESDAY evening (!), 21 Jan in Timonium Maryland.  Seems like a
> strange time, but I'll be in the area on business.  Anybody have any
> details?-----------snip-------------

  I heard about this last year.  It is an unadvertised meet held by and
for the gang that runs the big two-day event every spring.  This meet is
so they can enjoy a one without running it.  --It's small.--

--
73' John Dilks, K2TQN

   Webmaster for the Antique Wireless Association
       http://www.ggw.org/awa   Click on "Page 2"
-=and=-
   for the New Jersey Antique Radio Club
       http://www.eht.com/oldradio
-----------------please-visit-------------------


------------------------------

Date: Fri, 16 Jan 1998 22:14:46 -0500
From: "Dave Meier" <n4mw@email.msn.com>
To: <kb5wwo@juno.com>, "Old Tube Radios" <boatanchors@theporch.com>
Subject: Re: Nixie Tubes for SB650
```

Message-ID: <085552916131118UPIMSSMTPUSR04@email.msn.com>

What number of tube? I've got some in an old HP thing you can have if they are the same. I'ts up in the attic right now or I'd tell you which tubes it has.

Dave N4MW

Date: Sat, 17 Jan 1998 09:35:03 EST
From: Jderm740 <Jderm740@aol.com>
To: boatanchors@theporch.com
Cc: jlogin@gville.mindspring.com
Subject: HRO MODS
Message-ID: <be86261c.34c0c199@aol.com>

Bob
I have a schematic and instruction bulletin concerning adding a product detector to the HRO via a plug-in arrangement.
If you want a copy send me your address and I'll mail it to you.

Jack   Jderm740@aol.com

Date: Sat, 17 Jan 1998 10:51:04 -0800
From: Vern Schroeder <vschroed@sprynet.com>
To: boatanchors@theporch.com
Subject: TM 11-827
Message-ID: <34C0FD98.528F@sprynet.com>

Looking for a reasonably priced original copy of TM 11-827 BC-447 transmitter.

Vern

Date: Sat, 17 Jan 1998 11:19:00 -0400
From: Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
To: boatanchors@theporch.com
Subject: PRM-10:World's best Grid Dip Meter
Message-ID: <v03102800b0e660b8111c@[134.53.65.12]>

Hi Gang,

Given the recent inquiries about the AN/PRM-10 grid dip oscillator, I thought I'd provide a few details about the instrument for those who have never used one. I came across a new and unused one quite by accident about a year ago. I've used a number of GDOs over the years --Heath, Millen, etc. -- and my favorite had always been my Eddystone GDO (actually a gate dip oscillator), which comes in a nice wooden box. The PRM-10 is to these other units as the Collins KW-1 is to the Johnson Ranger -- all good, but in different leagues. There may be other GDOs out there that are as substantial, but nothing I've seen comes close.

The PRM-10 is truly the Godzilla of grid dip meters. It weighs about fifteen pounds and measures 8.5" W x 11" L x 5 " D. It is housed in a thick grey aluminum box with a removable top cover secured with four rugged clasps. A rubber gasket makes the entire unit waterproof. The instrument's schematic diagram and operating instructions are found on an embossed plastic sheet secured to the inside of the cover. According to the chart of included items on the sheet, no instruction booklet is supplied with the unit other than the embossed plastic instructions.

Inside the box, permanently mounted on the left side, is the power supply, with On/Off toggle switch, red indicator, 0.3A fuseholder, spare fuseholder, two toggle switches labelled OSC/DIODE and MOD/CW, and two 1/4 in phone jacks, one labelled EXT MOD and the other PHONES. Two cables are attached two the power supply, one a 115V/60Hz power cord and the other a 5' interconnecting cable to the tuning head.

The removable tuning head is about 3.5" x 7" x 2 " and is in a heavy extruded aluminum case. The head has a ruggedized two inch 100uA meter, a tuning knob and dial, and a meter-adust knob. A socket on top holds one of seven plug-in coils, which are stored on the right side of the unit in individual sockets. The coils are completely encapsulated in clear plastic and have five minature banana plugs in the base which plug into mating jacks in the tuning head. The coils' plastic housings also contain several resistors, which customize the oscillator circuit for the frequency range in use. The coils tune the following ranges:

2-5 MHz
5-10 MHz
10-22 MHz
22-45 MHz
45-100 MHz
100-250 MHz
250 -400 MHz

Circuit: The PRM-10 uses five tubes, four of which are in the power supply compartment. A 6X4W rectifies the B+, an OA2 is a voltage regulator, a 6AV6 and 6005 serve as a phase shift audio oscillator, and the rf oscillator in the tuning head is a 955 triode. To be perfectly honest, I don't really understand the nuances of the circuit. For example, the r.f. oscillator plate is tied to the cathode of the 6005 phase shift oscillator, with no other connection to the power supply. The cathode is grounded through a 510K resistor, and presumably rides at a high enough B+ level to power the oscillator tube; still, the configuration strikes me as unorthodox. The tuned circuit of the oscillator is connected between the plate and grid, with a resistor network in the plug-in coils providing grid leak and sensitivity adjustment for the meter. I don't see where the postive feedback occurs for the oscillator, but I'm obviously missing something.

However unusual the circuit is, one can't dispute that the instrument works well. It can be used as a grid dip meter, an absorption wavemeter with headphone jack to monitor AM signals, or a signal generator. Either the internal AM modulator can be used, or an external audio source. Connect it up to your CD player, and you've got a little radio station. Use it in the internal audio mode and jam your neighbor's TV set when he turns the volume too loud.

The oscillator is extremely stable. After a 10 minute warmup, I tuned the oscillator to 14.250 MHz and found that it drifted only about 100Hz in an hour -- better than most VFOs or receivers of the era. The dial calibration is right on the nose. I've dipped numerous tuned circuits and always find a nice, deep dip. The instrument is a joy to use.

My advice would be to snag one of these babies if the opportunity presents itself. You might find one dirt cheap at a flea market, but if I saw one in new condition I'd happily pay $150-$200 and think I got a bargain. Some folks say the PRM-10 is fairly common, and I hope they're right. Mine, however, is the first and only one I've ever seen.

73,

Jim Garland W8ZR

Date: Sat, 17 Jan 1998 17:44:28 +0100
From: Heinz und Hannelore Breuer <hbreuer@metronet.de>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WTB: AN/PRM-10 Grid Dip Meter
Message-ID: <34C0DFEC.2C1D@metronet.de>

After reading Jim's comments that is exactly what I need.
Any offers?

73
Heinz - KF6FNC

Date: Sat, 17 Jan 1998 13:10:12 -0500 (EST)
From: gcr2@po.CWRU.Edu (George C. Rybicki)
To: boatanchors@sco.theporch.com
Subject: Surplus Conversion Handbooks FS
Message-ID: <199801171810.NAA23213@christopher.INS.CWRU.Edu>

For sale, full set of Surplus conversion handbooks, all in good shape:

Volume 1, 3rd ed., Volume 2, Volume 3, The Surplus Handbook, Surplus Schematics Handbook (CQ), Surplus Conversion Handbook(CQ). Like to sell them as a lot. BO over $100 for all. Thanks George

---

Date: Sat, 17 Jan 1998 13:28:46 -0500
From: polepeeg@aa4rm.radio.org (BA x-actions hr)
To: 4CX250B@miavx1.acs.muohio.edu
Cc: boatanchors@theporch.com
Subject: Re: PRM-10's dangling 955
Message-ID: <199801171828.NAA23399@aa4rm>

Jim isn't the 6AV6 the phase shift osc. RC coupled to the 6AQ5/6005 from which the 955 'dangles?'

If so, that 6AQ5's set up as a cathode-follower voltage dropper for the 955. Bet 6AQ5's grid V is set up by a resistance divider to, say 100V forcing the cathode to a few volts less...

If true so far, the 6005 acts as series regulator to the 6AV6 when no modulation and as a cathode follower audio output when the 6AV6 is on.

50s TVs used their audio output tube as a voltage-dropper/series regulator for the tuner.

Case in point an Admiral I mentioned here once

If this is beyond left field, 'scusa the guesswork.

Marty

--------in abstract, u sed------>

don't really understand the nuances of the circuit. For example, the r.f. oscillator plate is tied to the cathode of the 6005 phase shift oscillator, with no other connection to the power supply.

Date: Sat, 17 Jan 1998 14:18:58 -0500
From: "Thomas A. Adams" <103360.2133@compuserve.com>
To: "INTERNET:boatanchors@theporch.com" <boatanchors@theporch.com>
Subject: Need SX-111 manual copy
Message-ID: <199801171420_MC2-2FAB-217D@compuserve.com>

Greetings, Gang.

A buddy of mine, without INTERNET access, just came into a good looking Hallicrafters SX-111. It seems to work pretty well, but needs an alignment job, and has a sick S-meter circuit. Does anyone out there have a copy of the book they'd be willing to copy?

As per usual, he'll pay postage and duplication costs.

Also, if there are any SX-111 gurus out there, here's the S-meter symptoms; maybe somebody recognizes the problem, and knows a quick fix.

When he first started playing with the radio, he says the meter worked after a fashion. In a couple of hours tho, the meter decided to glue it's needle to the lower peg, no matter what the incoming signal strength.

Other than that, he says the rig works well...   he especially commented on how good AM sounds on it.

73's,

Tom, K9TA

Date: Sat, 17 Jan 1998 14:18:53 -0500
From: "Thomas A. Adams" <103360.2133@compuserve.com>

To: "INTERNET:boatanchors@theporch.com" <boatanchors@theporch.com>
Subject: Re. PRM-10 grid dipper
Message-ID: <199801171420_MC2-2FAB-217B@compuserve.com>

Someone said they wouldn't take $500 bucks for thier PRM-10 dipper. I agree wholeheartedly.

I currently use two different grid dippers, the second one being a Millen "industrial" version.

The PRM-10's dip is sharper and cleaner. It has less "false" dips than the Millen. The Millen is an excellent dipper, but the PRM-10 is better.

The main reason the Millen is still around is that it goes much lower in frequency; the so-called "industrial" kit includes coils that take it down to about 225 KHz. Conversely, the PRM-10 goes higher; 400 MHz.

As far as a source for PRM-10s is concerned; good luck. I found mine right here on BOATANCHORS. As I remember, the price was about $90.00 . It was worth every penny.

73's,

Tom, W9LBB

Date: Sat, 17 Jan 1998 14:18:56 -0500
From: "Thomas A. Adams" <103360.2133@compuserve.com>
To: "INTERNET:boatanchors@theporch.com" <boatanchors@theporch.com>
Subject: More Nuvistor info
Message-ID: <199801171420_MC2-2FAB-217C@compuserve.com>

Greetings.

The message string re. the sick Nuvistor converter has yielded some interesting information re. Nuvistors that it might be useful to share with the list.

I used to think that Nuvistors were nothing more than a very small version of the well known metal tube.
Wrong. The design and construction are completely different.

The Nuvistor's internal structures are constructed on a ceramic header, and that header is attached, via a metal to ceramic seal, inside the metal body, which contains the vacuum.

This differs significantly from a traditional metal tube. The metal tube's elements are constructed on a glass header, which is inserted into the metal body. However, that body contains a GLASS liner, which the header is sealed to. The GLASS holds the vacuum, NOT the metal can!

The problem here is that at the time Nuvistors were in vogue, the technology of metal to ceramic bonding was imperfect. As they are used, Nuvistor seals don't hold a vacuum well. As the tube goes thru heating and cooling cycles, the tube seal gets more and more leaky, admitting gas. As the gas content goes up, the filiment oxidizes, slowly flaking away until it finally lets go.

I'm hearing that it's relatively rare to find used Nuvistors that are usable; possibly one in five is good. They just don't age well.

This says to me that the I possibly owe the unknown original seller of the converter the benefit of the doubt; he MAY have sold the gizmo in good faith.

Let me make perfectly clear that Mike, the guy I bought it from, DID sell it in good faith; of this I have no doubts. If, as he told me, he never tried the unit, he'd have no way of knowing the tubes went sour.

73's,

Tom, W9LBB

Date: Sat, 17 Jan 1998 14:31:36 -0500
From: BEN NOCK <G4BXD@compuserve.com>
To: Multiple recipients of l <boatanchors@sco.theporch.com>
Subject: German U-Boat radio book
Message-ID: <199801171431_MC2-2FA8-462F@compuserve.com>

BOOK REVIEW   by Ben Nock, G4BXD

"FUNKPEILUNG ALS ALLIIERTE WAFFE GEGEN DEUTSCHE U-BOOTE 1939-1945"
RADIO LOCATION USED AS A WEAPON AGAINST GERMAN U-BOATS

"How it weakened the radio command of U-Boats during the "Battle of the

Atlantic"

This new book by Arthur O. Bauer delves into the fasinating world of radi=
o
communication during the Second World War as seen from the submarine poi=
nt
of view. The book gives an in-depth technical debate on the Huff-Duff (Hi=
gh
Frequency Direction Finding) used by the allies versus the German U-boat
wireless communications. The book contains information about the German W=
ar
time Enigma and Ultra codes, such as how there were nearly 540 million
million different code combinations, wireless propagation through the
different periods of the year, HF/DF in theory and deals extensively with=

the British FH 4 (Huff-Duff) receiver; the German Kurier fast transmissio=
n
system as well as the Giant Goliath VLF transmitter system (1000 kW) the
world's first mega watt valve transmitter. =

The book also deals the wireless organisation of the U-boat's Kriegsmarin=
e.
There are some 323 pages in all, presented in hard back A4 size format. T=
he
printing is first class and the photographic reproduction is excellent. T=
he
author makes a point that, with the exception of two, all photographs use=
d
in the book have never been published before.

The book is in the German language though, which is a real shame as I am
sure many non German readers would have loved to have read this one in
full. The diagrams, charts and photographs are self explanatory and with =
a
basic understanding of the language, many points can be gleaned from the
pages. Priced around 25 Pound, the ISBN is 3-00-002142-6, and is availabl=
e
from Leibich Funk GmbH, D-47486 Rheinberg, Germany, Postfach 301 217. =

Date: Sat, 17 Jan 1998 14:40:02 -0500
From: polepeeg@aa4rm.radio.org (BA x-actions hr)
To: ebjr@worldnet.att.net, rbarmore@indy.net

Cc: boatanchors@theporch.com
Subject: Re: Pulse Duration Modulation?
Message-ID: <199801171940.OAA23539@aa4rm>

Say I had this little footnote to a post 6 days ago

]   or use a PWM foundation chip for a switching PS with the right in & out
]   filters & a opto-isolated HV switch - I may publish on this / no mod
]   xfrm, teeny parts count, GREAT BASS & verrry low distortion!

I've built the thing with this manifest:

-a Tech America PDM $24.50 kit 'stretched' to run at 10kC
-a powered Shure 'SuperSidekick' mike
-1 channel of a R-S throwaway graphic equalizer to nose-dive audio in above @ 3kc (eliminates 'Nyquist aliasing' with 10kc samples)
-a opto isolator who's phototransistor is darlington'd to a R-S horiz. out transistor (1500V Veb) with both biased by two AA batteries (verry special ARRL models that can sit 500V above ground when mounted on lucite)
-3 88/22mh fone 'loading coil' torroids (tks WB4MNF) & a batch of .003 caps to take out the 10kc hash with this 7-pole L-M section which goes betw. horiz.-out 'switch' & final. Note you must design with right arithmetic & avg. load considered.

Sounds fine whe you can hear it since Navigator runs @ 50% B+ duty cycle at idle - i.e. 15W in. Does jump to 60W on the odd AM peak of course.

Very few parts & an exercise in 'making it happen' with easily-gotten stuff.

Can be built w/o oxygen-free copper wire.

M

--------------------assorted footnotes-------------

SPAM issue 1, vol 1. had same idea with a 4-250 as the switch for a 'big rig.' Was a fb art'l & author really knew his stuff.

That 4-250 took some doin' since the control grid's near 2500V when 'on' and abt. gnd when 'off.' This's where those SS 'switch ladders' are employed in the 1st generation BC pdm sets.

Evidently the SS switch ladders won the design contest since I don't think a 'tube switch' pdm xmtr ever went to prod'n.

Now the current SS xmtrs run @ the output freq. and are modulated by varrying width. Technially they can take audio in at up to half the output freq but of course there's bandwidth considerations.

Uncle... I'm gonna stop awreddy!

Date: Sat, 17 Jan 1998 14:36:44 EST
From: PLT1032 <PLT1032@aol.com>
To: boatanchors@theporch.com
Subject: BA-31 BATTERIES
Message-ID: <710150f3.34c1084f@aol.com>

Looking for a source for BA-31 batteries, 4.5 volt drycell as used in multimeter TS-352 /B /U. Can anyone help me.

Bob Lindgren

Date: Sat, 17 Jan 1998 13:45:37 -0700
From: Dexter Francis <cwest@xmission.com>
To: boatanchors@theporch.com
Subject: TS-820 Manual needed
Message-ID: <34C11871.62A0@xmission.com>

Does anyone have a Kenwood TS-820 service or ops manual that I could copy?

-df

     Need to Buy or Sell Tubes, Parts or BA Gear?
Visit our Web site at http://www.xmission.com/~cwest/
  e-mail to: tubes@usa.net -or- cwest@xmission.com
     P.O. Box 22443, Salt Lake City, Utah 84122

Date: Sun, 18 Jan 1998 07:11:37 +1100
From: "Steve Hill" <SHILL@onaustralia.com.au>
To: <boatanchors@sco.theporch.com>

Subject: Re: German U-Boat radio book
Message-ID: <21155854681142@onaustralia.com.au>

"FUNKPEILUNG ALS ALLIIERTE WAFFE GEGEN DEUTSCHE U-BOOTE 1939-1945"
RADIO LOCATION USED AS A WEAPON AGAINST GERMAN U-BOATS

The book is in the German language though, which is a real shame as I am sure many non German readers would have loved to have read this one in full. The diagrams, charts and photographs are self explanatory and with a basic understanding of the language, many points can be gleaned from the pages. Priced around 25 Pound, the ISBN is 3-00-002142-6, and is available from Leibich Funk GmbH, D-47486 Rheinberg, Germany, Postfach 301 217.

I'd love to have a copy of Arthur's book. He has expressed some interest in doing a translation, but is concerned about whether he could sell enough copies to justify the cost.

Cmon guys, surely there's enough of us here that would buy a copy.

Anyone who wants to persuade him to do the translation can contact him at <AOBAUER@compuserve.com>

Cheers

Steve Hill VK4CZT
<SHILL@onaustralia.com.au>
39 Banbury St.
Carina. 4152.
Brisbane. Australia.

Date: Sat, 17 Jan 1998 16:34:02 -0500
From: aa1hb@juno.com (Charles M Cheney)
To: boatanchors@sco.thePorch.com
Subject: Signal Shifter date
Message-ID: <19980117.163727.6350.0.aa1hb@juno.com>

Hello BA friends,

I would like to know the approximate date of a Meissner Signal Shifter Model 9-1090. It is not the same as the one in the handbooks from the 40s, having a turret with six band positions and a logging scale read out of two small rectangular windows.

Charlie AA1HB (aa1hb@juno.com)

Date: Sat, 17 Jan 1998 16:37:23 -0500
From: aa1hb@juno.com (Charles M Cheney)
To: boatanchors@sco.thePorch.com
Subject: What makes a tube "Zero Bias"
Message-ID: <19980117.163727.6350.1.aa1hb@juno.com>

Keepers of the tube lore -

I was discussing tubes with a friend last week and he asked me what it was about the design of a "zero bias" tube that gave it this property (zero plate current at zero grid bias). I was stuck for an answer, but I am sure someone here can help.

73,

Charlie AA1HB (aa1hb@juno.com)

Date: Sat, 17 Jan 1998 17:23:26 -0500 (EST)
From: "Roberta J. Barmore" <rbarmore@indy.net>
To: BA x-actions hr <polepeeg@aa4rm.radio.org>
Cc: ebjr@worldnet.att.net, boatanchors@theporch.com
Subject: Re: Pulse Duration Modulation?
Message-ID: <Pine.SUN.3.96.980117165934.27953C-100000@indy2>

On Sat, 17 Jan 1998, BA x-actions hr wrote:
[Nice description of a clever homebrew AM PDM rig deleted for brevity].

> [Footnote about a *big* PDM job:] ...the control grid's near 2500V
> when 'on' and abt. gnd when 'off.' This's where those SS 'switch ladders'
> are employed in the 1st generation BC pdm sets.
>
> Evidently the SS switch ladders won the design contest since I don't think
> a 'tube switch' pdm xmtr ever went to prod'n.

Nope, not so--the Harris MW-5 and the Rockwell/Collins Power Rock 5 both used vacuum-tube modulation switches; the Collins product (and I belive the Harris as well) used identical tubes for RF PA and mod/switch. Worked just fine; you can drive a tube off and on plenty fast enough for reasonable PDM. Each rig entailed some tricks to get drive to the grids, since no matter what you do, at least one (RF or Mod/switch) grid return (tube cathode) is way off DC ground; Rockwell and Harris found very different solutions to the problem.

Both rigs can be considered "second generation" PDM BC transmitters; first gen. was the (all SS) Harris MW-1 250W/1kW job and a very similar RCA transmitter that didn't see wide use (Harris really beat 'em on price).

73,
--Bobbi

____
PS: for those who *really* wanna irk their peers, ponder this: a low-power PDM rig using "audiophile" power triodes for RF PA and Mod/Switch! Ohh golly, you could even build up the output stage on a nice ol' breadboard with a ground-plane metal "skin" on top. like the big rigs of the later '30s!

...One way to get the pulse-width-varying with-AF for PDM is to apply triangle waves at the PDM freq to one input of a comparator, and the modulating AF to the other; a comparator is really just an op-amp running (more or less) without feedback. The first "operational amplifiers" were tube jobs for analog computers (WW II-ish technology); so you *could* do it with tubes, though it would be fiddly and I suspect slew-rate limitations would push the maximum practical sample freq down far enough to make 3kc audio response about the max. But it is do-able! Oh, to have the time; picture a PDM rig running a batch of '27s for the low-level stages and, I dunno, maybe some 211s in the output? Eeeek! :) The challenge of doing it all in 1930s style, using no modern parts, would make the end result as unique a ham rig as ever was! You'd want a handful of little 2" or 1" scopes to keep an eye on things (tube op-amps are prone to drift); the National CRO & CRM series would be ideal....

End of BOATANCHORS Digest 1883
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